

DOCUMENT RESUME

ED 394 571

JC 960 306

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TITLE How To Improve the Quality of Our Organizations through the Use of TQM, Continuous Improvement Strategies.
PUB DATE Feb 96
NOTE 8p.; In: The Olympics of Leadership: Overcoming Obstacles, Balancing Skills, Taking Risks. Proceedings of the Annual International Conference of the National Community College Chair Academy (5th, Phoenix, AZ, February 14-17, 1996); see JC 960 276.
PUB TYPE Viewpoints (Opinion/Position Papers, Essays, etc.) (120) -- Speeches/Conference Papers (150)
EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS Community Colleges; *Educational Administration; Educational Needs; *Educational Quality; Models; *Needs Assessment; Organizational Change; *Organizational Development; *Organizational Effectiveness; Self Evaluation (Groups); Student College Relationship; *Total Quality Management; Two Year Colleges

ABSTRACT

As a result of global competition in business, Total Quality Management (TQM) has been seen as necessary to provide competitive products and services that customers want and need at attractive prices. In applying the principles of TQM to higher education, however, the perceived need for survival and competition in business and industry does not often exist. TQM is seen as a voluntary effort and commitment may not be total. For TQM to succeed at colleges and universities, students must be viewed as customers and their needs and wants as customers must be identified. Once this view of students is accepted, the operational process must be implemented. This involves creating a steering committee, complete with vision and mission statements and the identification of objectives, rewards, and consequences; undertaking institutional self-assessment, reviewing commitment, cost, resources, timing, and employee involvement and support; selecting the quality improvement process that will be implemented; providing training regarding time requirements, scheduling, costs, and job skills updates; and designing an implementation strategy. One model which can be useful is the Motorola Quality Process, which includes the following stages: (1) identify products created and services provided; (2) identify customers and what they consider important; (3) identify organizational needs with respect to the provision of products and services; (4) define the process; (5) eliminate wasted effort; and (6) ensure continuous improvement through evaluation and feedback. (TGI)

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HOW TO IMPROVE THE QUALITY OF OUR ORGANIZATIONS THROUGH THE USE OF TQM, CONTINUOUS IMPROVEMENT STRATEGIES

By

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Paper Presented at the
Fifth Annual International Conference for
Community & Technical College Chairs, Deans and Other Organizational Leaders
February 14 - 17, 1996
Phoenix/Mesa, Arizona

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EXPERIENCE

My current position is Director of Business Programs for credit classes. I have responsibility for a 1.4 million dollar budget and supervise 92 union and non-union employees. My adjunct faculty includes four judges and numerous attorneys. In 1996, my responsibility will include Academic Computing.

In my prior position with Clayton State College I developed and directed a quality center (adult and continuing education). Participants included five Malcolm Baldrige National Quality winners, political leaders, and four Chambers of Commerce. This position included marketing, proposal development, contract training, and evaluation of professors, consultants, etc. My contract training included, but was not limited to the Ford Hapeville plant, personnel from Rolls Royce, Northwest Airlines' Maintenance Facility in Atlanta, and Coca Cola.

My private industry activities include consulting, system and industrial engineering, publication of eighteen articles on the subject of productivity and quality improvement, the development of an assessment instrument that quantifies an organization's culture, directed a product from research and development to production, and implemented a cost saving program that saved the company \$1,000,000 per year.

EDUCATION

MBA Management - University of South Carolina
BS Business Science - University of South Carolina

Issues requiring people to make significant changes in their life or work habits are difficult. Total Quality Management and Continuous Quality Improvement (TQM/CQI) are different, they require culture upheaval.

Many TQM/CQI strategies claim limited success. However, the most important issue in achieving long term success or the success necessary to change an organization's culture, is to have a good understanding of the basic concepts. In TQM/CQI the most important basics are understanding the history, knowing who benefits from the new process, selecting the correct process to implement, and the individual tailoring or customizing the process to fit the organization.

The concepts of Total Quality Management and Continuous Quality Improvement are not new. Their beginnings were pre-1945. The mathematician Walter Shewhart developed what we today call Statistical Process Control or SPC in 1924. SPC was introduced and actually used prior to the end of World War II. However, before SPC was able to gain a reputation for its ability to produce long-run, high-quality parts, the War ended. When the War ended the U.S. was the only free-world country whose industry had not been bombed. With the free world clamoring for any and all manufactured parts, quality was not an issue. The only issue was quantity. The idea that dominated the U.S. industry was productivity or how fast can it be produced.

Dr. W. Edwards Deming, a statistician and an understudy of Shewhart, was asked by the U.S. Army to help conduct a census in Japan. Through contacts with the locals, Dr. Deming became a teacher and mentor to Japanese business managers. Dr. Deming told the Japanese that if they listen to him, "they could take over the world."

Deming, Juran, Crosby, Peters, Scholtes, and Ishikawa are some of the more recognizable names. Today's TQM and CQI have evolved from a conglomeration of concepts borrowed from systems theory, management theory, organizational development, psychology, human resources, and others. This borrowing from different disciplines to achieve the goal epitomizes why TQM has enjoyed its long run success. This "borrowing" from others has itself become a tool of TQM. It is now called benchmarking, i.e., borrowing the best practices from other organizations then transplanting and making them your own.

America's 20th century corporations were slow to respond, bureaucratic, self-serving, and restrainers of change. Today's TQM is the opposite. TQM teaches organization the processes necessary to overcome many of the barriers to success.

The "why" of TQM as seen by today's corporations is a necessity for survival. The threat is competition from worldwide producers of high quality products at lower prices. Today's competition is Japan, with Korea a distant second. Tomorrow's competition adds Southeast Asia and China. And not to be forgotten is Russia and what was formally East Germany. The point is competition will continue into the foreseeable future. Therefore, TQM must become a way of life.

The "what" of TQM is a system or process for organization wide continuous quality improvement, a requirement that responsibility for quality reside with top management, poor quality is the fault of the process or system, the definition for quality is provided by the customer, and employee participation. The results of TQM is excellence in products and services that the customer wants and needs at attractive prices.

TQM requires a commitment to the basic concepts. Commitment to the concepts and

principles of TQM for corporate America was not an option but a prerequisite for survival. Colleges and universities do not have this perceived need of survival as an encouraging change agent. Therefore, the organizational or cultural change necessary for success is considered to be voluntary.

It has become obvious that many have used TQM/CQI as a means to do more with less. Many of us in education are also feeling a budgetary pinch and are beginning to seek ways to stretch our dollars. To this end many colleges and universities have turned to TQM/CQI with varying degrees of success.

In business and industry the success rate of TQM is 20 to 40 percent. Therefore, the failure rate of TQM is 60 to 80 percent. And they need TQM for survival. Higher education only wants it.

BASICS, BASICS, BASICS

From these percentages we can conclude success will not occur by accident. A commitment of time, money, knowledge, skill, and planning is required. The following sections are provided to help with the understanding necessary for a TQM process to succeed, *The Student as the Customer*, *The Operational Process*, *A Quality Improvement Process (Motorola)*, and *Considerations for Individual Tailoring*.

THE STUDENT AS THE CUSTOMER

Many educators find it difficult to see the student as a customer. However, business and industry have no problem with this idea. The reason business and industry continue the quest of quality improvement is to retain their current customers and acquire more. The concept of customer pervades the entire entity. Impressive amounts of time and money are spent on identifying who the customers are and what their wants and needs are.

This concept of customers refers not only to the buyer or end user but also to the internal customer. The internal customer can be defined as the next person you hand your work off to. The idea is to treat each person in the sequence as customers. Generally, each person that adds value to the products or services is considered both customers and supplier. This technique results in the end item or service being of highest quality. The customer is the lifeblood of the organization. Therefore, the definition of quality is determined by the customer.

Years ago the craftsman and professional provided the definition of quality. This was followed by business and industry providing the definition of quality as an absence of defects. However, today's leading edge companies define quality as "whatever the customer wants it to be." They strive not only to satisfy the customer requirements but to also anticipate and delight the customer. The belief is that if they don't another company will.

In education the perception of customer focus is a literal translation to "the customer is always right." If this were true, the role of the teacher would be reduced to attempting to satisfy the needs as perceived by a freshman student. If this idea dominated education what would happen to academic freedom? Would the faculty

be forced to give the students an "A" for "F" work because the student is unhappy with the grade that was earned?

This definition of customer is understandable, but misses the point. The intent is to identify the customer, then identify the customers' wants and needs, then provide for the wants and needs. So what do we do with the student who said he wants an "A" but does "F" work? Consider what would happen if the faculty gave an "A" to every student. The employers would immediately see that many of these graduates did not have the skills and education necessary. The graduates would not be able to perform as promised or guaranteed by the educating institution. The results would be unhappy employers and many unemployed graduates.

Satisfying the customer frequently involves using your expertise to help the customer understand his wants and needs. The want maybe an "A" grade but the need is education.

THE OPERATIONAL PROCESS

OK, so we decided we want a TQM/CQI process, what do we really need to be successful? A good place to start is with the following:

- I. The Steering Committee
Who, Vision Statement, Mission Statement, TQM/CQI Plan, Strategic Objectives, Rewards and Consequences
- II. Self-assessment
Commitment, Cost, Resources, Timing, Employee Involvement, Expertise, and Employee Support
- III. Selection of a quality improvement process
- IV. Training
Subjects, Instructors, When to do, Time Requirements, Schedule, Cost, and Job Skills Update
- V. Implementation strategy
Who, What, Where, When, and Why

This process must result in a written and complete document. It will be used as a guiding light for all participants. Everyone must work toward the same goals. This is a working document and should be modified as it becomes necessary but not without serious consideration. Copies should be numbered and strictly controlled. The control is only to ensure everyone is working toward the same goals.

Facilitator

A skilled facilitator's value should not be underestimated. When you are using ad hoc teams to solve cross functional problems, a skilled facilitator is a necessity. These are the people that will provide the real guidance in meetings. We have all had our share of bad meetings where the accomplishments were far less than desirable. A facilitator's job is to keep the meeting progressing and on the agenda. This requires ensuring that everyone participates, limiting the people that want only their agenda

presented, and not letting position or rank dictate outcomes.

Tools

Flow Charting, Fishbone Diagram, Pareto Chart, Scatter Diagram, The Plan-Do-Check-Act Cycle (PDCA), Histogram, Control Charts, Affinity Diagram, Force Field Analysis, Brainstorming, Nominal Group Technique

As mentioned in the introduction, TQM/CQI is constantly improving. The above are the current most popular tools.

A QUALITY IMPROVEMENT PROCESS

The strategy recommended is The Motorola Quality Process. It is a comprehensive approach that can easily be modified for the unique needs of education. Also, this process has an end item that our customers want and need.

The Six Steps to Six Sigma below are from the perspective of the college or university. These steps should also be competed for each division and department in the organization.

THE MOTOROLA QUALITY PROCESS

Six Steps to Six Sigma (3 defects per million opportunities)

1. Identify the products you create or the services you provide. This is the reason for your organization's existence.
Employable Students, Socially Responsible Students, Effective Instructional Processes, Reduced Cycle Time for Registration
2. Identify the customers for your product or service and determine what they consider important.
Students, Private Sector, Public Sector, Accrediting Boards, Taxpayers, Alumni
3. Identify your needs to provide the products/service so that it satisfies the customer. This includes a determination of who your suppliers are?
High Schools, Parents, Taxpayers, Alumni
4. Define the process for doing the work. How is the work currently being done?
Process Mapping For:
Learning, Registration, Facilities Management, etc.
5. Mistake-proof the process and eliminate wasted effort. Think of the "should be" and the "could be."
Eliminate Waste (cost & time), Improve Quality
6. Ensure continuous improvement through evaluation and feedback. Set up a closed loop evaluation and feedback process.
Continuous Change, Continuous Learning (for all)

The 1980s was a decade of improvement in the quality of products and services. The 1990s will be the decade of improvement in the quality of people. In the decade between 1990 and 2000 technology, both hardware and software, will be available to all corporation on a global basis. The competitive edge will go to the corporations who have the best people, "Mindware," managing the technology.

The role of education in the development of "Mindware" is as follows:

Develop social responsibility, Prepare students for employment, Develop life-long learning skills

The end product of education is students who are employable. "Employability" must be defined in collaboration with the employers, i.e., customers. Employability includes:

Basic skills, Functional skills, Knowing how to learn, Listening and speaking well, Creative thinking and problem solving, Interpersonal relations and teaming, Self-esteem and motivation, Organizational effectiveness and leadership

In summary the shift to the "information society" has changed and will continue to change the needs of the workplace. Colleges and universities must understand these workplace customer needs. Curriculum, instruction, assessment, and management methods must be redefined to meet or exceed the customer's needs.

The above Motorola information is from the conference book provided to participants of The Fifth Annual Conference on TQM in Colleges and Universities: Reengineering The University - 1994, at the University of Chicago Conference Center in Chicago, Illinois.

CONSIDERATIONS FOR INDIVIDUAL TAILORING

This section contains questions that should be answered prior to implementing a TQM/CQI process. Once answered the required need will become obvious. However, the specific strategy for success may be a little more difficult.

- 1. What is your definition of quality?
- 2. What is your customer's definition of quality?
- 3. What specifically do you want to accomplish?
- 4. What is the time frame for improvement?
- 5. How will you know if the effort is working?
- 6. Does everyone in the organization recognize the need for improvement?
- 7. Who are the participants necessary for success?
- 8. What is the main level of commitment by top management?
- 9. Who is responsible for quality improvement and are they aware?
- 10. Who is responsible if the effort fails?

Note: Several handouts will be provided for your information. One includes the names, addresses, and phone numbers of 132 K-12 schools and 220 colleges and universities who have participated in various Total Quality Management/Continuous Quality Improvement efforts.